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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,784	08/17/2006	Masahiko Hayashi	2611-0261PUS1	9828

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BIRCH STEWART KOLASCH & BIRCH  
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FALLS CHURCH, VA 22040-0747

EXAMINER
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ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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05/13/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,784	<b>Applicant(s)</b> HAYASHI ET AL.	
	<b>Examiner</b> Martin J. Angebrannt	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/17/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Mizuno et al. JP 2001-323074, as evidenced by Fujiwara et al. JP 05-196808.

Mizuno et al. JP 2001-323074 (Machine translation attached) teaches the injection molding of olefinic resins to form a detailed copy of the surface relief patterns which are stable against heat and moisture. [0003-0004,0051]. The use of this process for molding optical materials/products including gratings and diffusion board is disclosed. [0033]. The formation of periodic/grating structures is disclosed in the examples and are formed using a polymerized 8-mehtyl-8-methoxy tetracyclo [4.4.0.1<sup>2,5</sup>.1<sup>7,10</sup>] -3-dodecene. [0037-0039,0043] which after hydrogenation results in an alicyclic polymer. Those made in the 2100 x 100 mm 1 mm thick plate having 100 prisms 250 microns in width and 10 microns in depth (second pattern illustrated in figure 4).

Fujiwara et al. JP 05-196808 (Machine translation attached) establishes that triangular/prismatic patterns such as those shown in figure 1 inherently function as diffusers

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useful for liquid crystal displays. As this is a regular pattern (essentially a blazed grating), it inherently can be formed holographically.

The applicant in the specification forms the diffuser using speckle generated from a ground glass diffusion screen, which results in a (pseudo)random pattern (specification at [0067], page 26). Currently the claims embrace any surface relief diffuser capable of being made holographically formed in the recited resin.

4. Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Hasegawa et al. JP 2003-286316, as evidenced by Fujiwara et al. JP 05-196808.

Hasegawa et al. JP 2003-286316 (Machine translation attached) teaches the formation triangular grooves to a depth of 1 microns in a molded resin which is cured using light and then released from the mold. The alicyclic resin composition is dimethylol tricyclo[5.2.1.0<sup>2,6</sup>] decane dimethacrylate, cyclohexane dimethanol dimethacrylate (both or which contain an alicyclic moiety) and Irgacure 907 [0094-0097]. The use of this in forming various optical articles including diffusers (diffusion board), having a triangular profile as discussed in patent document 6 (JP 05-196808) and diffraction gratings [0093,0013,0003]

Fujiwara et al. JP 05-196808 establishes that triangular/prismatic patterns such as those shown in figure 1 inherently function as diffusers useful for liquid crystal displays. As this is a regular pattern (essentially a blazed grating), it inherently can be formed holographically.

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al. JP 2001-323074, in view of Suzuki '978, McCall et al. '322 and Bestenreiner et al. '810..

Suzuki '978 teaches holographically forming diffusion plates. The use of two lenticular sheets and by choice of these sheet or the angle formed between the lenticular sheets, the shape

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of the speckles controlled (3/25-58). Various photosensitive materials can be used to record the relief images (4/12-19). The use of two diffusion plates to form the desired speckle pattern is disclosed with respect to figure 13. (5/51-6/33).

McCall et al. '322 teaches the formation of diffuser plates using molds which having holographically formed inserts [0062]

Bestenreiner et al. '810 teaches forming the diffuser using a laser exposure through a diffuser (figure 1 and text in column 2), where the patterns may be formed in photoplate, then densified to form a relief image, a master formed using galvanization, which than can be used for embossing (2/50-3/20)

It would have been obvious to modify the process of Mizuno et al. JP 2001-323074 by using other known diffuser relief patterns, such as those generated using laser speckle taught by Suzuki '978, which allow control of the speckle pattern in the original exposure to form diffusers with various properties and to make masters form the original relief hologram using galvanic techniques disclosed by Bestenreiner et al. '810 which is then used as mold insert, in the manner taught by McCall et al. '322 which allows the injection mold to be used to make various diffusers or other articles, such as gratings, with different patterns without changing the entire mold (ie by merely changing the mold insert) with a reasonable expectation of success in forming the desired articles and having the desired flexibility in further mold usage.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin J Angebranndt/  
Primary Examiner, Art Unit 1795

Martin J Angebranndt  
Primary Examiner  
Art Unit 1795

5/6/09